

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES
(Attorney Docket № 14180US02)**

In the Application of:

Ed H. Frank, et al.

Serial № 10/658,725

Filed: September 9, 2003

For: METHOD AND SYSTEM FOR
PROVIDING AN INTELLIGENT
SWITCH FOR BANDWIDTH
MANAGEMENT IN A HYBRID
WIRED/WIRELESS LOCAL AREA
NETWORK

Examiner: Michael Thier

Group Art Unit: 2617

Confirmation № 2800

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APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
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Sir:

This is an appeal from an Office Action dated May 3, 2010 ("Final Office Action"), in which claims 1-25 were finally rejected. The Appellant respectfully requests that the Board of Patent Appeals and Interferences ("Board") reverse the final rejection of claims 1-25 of the present application. This Appeal Brief is timely filed within the period for reply that ends on September 16, 2010.

**REAL PARTY IN INTEREST
(37 C.F.R. § 41.37(c)(1)(i))**

Broadcom Corporation, a corporation organized under the laws of the state of California, and having a place of business at 5300 California Avenue, Irvine, California 92617, has acquired the entire right, title and interest in and to the invention, the application, and any and all patents to be obtained therefor, as set forth in the Assignment recorded at Reel 014199, Frame 0975 in the PTO Assignment Search room.

**RELATED APPEALS AND INTERFERENCES
(37 C.F.R. § 41.37(c)(1)(ii))**

The Appellant is unaware of any related appeals or interferences.

**STATUS OF THE CLAIMS
(37 C.F.R. § 41.37(c)(1)(iii))**

The present application includes pending claims 1-25, all of which stand rejected under 35 U.S.C. § 103(a). (*See* Final Office Action, p. 5.) The Appellant identifies claims 1-25 as the claims that are being appealed. The text of the pending claims is provided in the Claims Appendix.

**STATUS OF AMENDMENTS
(37 C.F.R. § 41.37(c)(1)(iv))**

The Appellant has not amended any claims subsequent to the final rejection of claims 1-25 mailed on May 3, 2010.

SUMMARY OF CLAIMED SUBJECT MATTER
(37 C.F.R. § 41.37(c)(1)(v))

Independent claim 1 recites the following:

A method for providing bandwidth management in a hybrid wired/wireless local area network, the method comprising:

receiving¹ from at least one of a first access point² and a first switch³, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network;

responsive to said first messaging protocol message, determining an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network;⁴

allocating⁵ bandwidth to accommodate said communication session; and

notifying⁶ said first access point of said allocated bandwidth using at least a second messaging protocol message.

Independent claim 9 recites the following:

A machine-readable storage, having stored thereon a computer program having at least one code section for providing bandwidth management in a hybrid

¹ See, e.g., Application, p. 8, ¶ 20, lines 2-5; see also, *id.*, p. 13, ¶ 39, lines 2-5.

² See, e.g., *id.*, Fig. 2, refs. 204-212 and 224-232.

³ See, e.g., *id.*, Fig. 2, refs. 202, 222; see also, *id.*, Fig. 4, ref. 402.

⁴ See, e.g., *id.*, p. 8, ¶ 20, lines 5-7; see also, *id.*, p. 13, ¶ 39, lines 5-7.

⁵ See, e.g., *id.*, p. 8, ¶ 20, lines 7-8; see also, *id.*, p. 13, ¶ 39, lines 7-8.

⁶ See, e.g., *id.*, p. 8, ¶ 20, lines 8-10; see also, *id.*, p. 13, ¶ 39, lines 8-9.

wired/wireless local area network, the at least one code section executable by a machine for causing the machine to perform the steps comprising:⁷

receiving⁸ from at least one of a first access point⁹ and a first switch,¹⁰ at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network;

responsive to said first messaging protocol message, determining an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network;¹¹

allocating¹² bandwidth to accommodate said communication session; and

notifying¹³ said first access point of said allocated bandwidth using at least a second messaging protocol message.

Independent claim 17 recites the following:

A system for providing bandwidth management in a hybrid wired/wireless local area network, the system comprising:¹⁴

⁷ See, e.g., *id.*, p. 9, ¶ 22, lines 1-5.

⁸ See, e.g., *id.*, p. 8, ¶ 20, lines 2-5; *see also, id.*, p. 13, ¶ 39, lines 2-5.

⁹ See, e.g., *id.*, Fig. 2, refs. 204-212 and 224-232.

¹⁰ See, e.g., *id.*, Fig. 2, refs. 202, 222; *see also, id.*, Fig. 4, ref. 402.

¹¹ See, e.g., *id.*, p. 8, ¶ 20, lines 5-7; *see also, id.*, p. 13, ¶ 39, lines 5-7.

¹² See, e.g., *id.*, p. 8, ¶ 20, lines 7-8; *see also, id.*, p. 13, ¶ 39, lines 7-8.

¹³ See, e.g., *id.*, p. 8, ¶ 20, lines 8-10; *see also, id.*, p. 13, ¶ 39, lines 8-9.

¹⁴ See, e.g., *id.*, p. 9, ¶ 23, lines 1-2.

a receiver¹⁵ adapted to receive from at least one of a first access point¹⁶ and a first switch,¹⁷ at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network;¹⁸

at least one controller¹⁹ adapted to determine an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network, responsive to said first messaging protocol message;²⁰

said at least one controller adapted to allocate bandwidth to accommodate said communication session;²¹ and

said at least one controller adapted to notify said first access point of said allocated bandwidth using at least a second messaging protocol message.²²

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL
(37 C.F.R. § 41.37(c)(1)(vi))**

Claims 1-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,978,144 ("Choksi") in view of USPP 2003/0134650 ("Sundar") in further view of USP 7,089,016 ("Dokko").

¹⁵ See, e.g., *id.*, Fig. 4, ref. 406.

¹⁶ See, e.g., *id.*, Fig. 2, refs. 204-212 and 224-232.

¹⁷ See, e.g., *id.*, Fig. 2, refs. 202, 222; see also, *id.*, Fig. 4, ref. 402.

¹⁸ See, e.g., *id.*, p. 9, ¶ 23, lines 2-4; see also, *id.*, p. 21, ¶ 59, line 1 to ¶ 60, line 8.

¹⁹ See, e.g., *id.*, Fig. 4, ref. 410.

²⁰ See, e.g., *id.*, p. 9, ¶ 23, lines 4-8; see also, *id.*, p. 21, ¶ 59, line 1 to ¶ 60, line 8.

²¹ See, e.g., *id.*, p. 9, ¶ 23, lines 8-9; see also, *id.*, p. 21, ¶ 59, line 1 to ¶ 60, line 8.

²² See, e.g., *id.*, p. 9, ¶ 23, lines 8-10.

ARGUMENT
(37 C.F.R. § 41.37(c)(1)(vii))

Claims 1-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,978,144 ("Choksi") in view of USPP 2003/0134650 ("Sundar") and further in view of US 7,089,016 ("Dokko").

I. The Proposed Combination of Choksi, Sundar and Dokko Does Not Render Claims 1-25 Unpatentable

All of the claims have been rejected as being obvious over Choksi in view of Sundar and Dokko. The MPEP states the following regarding the requirements for establishing a *prima facie* case of obviousness:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

See MPEP at § 2142, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), and *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval). "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art." See *id.*, § 2143.01. Furthermore, in order to render the claims obvious, the asserted prior art combination must **teach or suggest each and every claim feature**. See *In re Royka*, 490 F.2d 981 (CCPA 1974) (to establish *prima facie* obviousness of a claimed invention, all the claim features must be

taught or suggested by the prior art); *see also In re Wada and Murphy*, Appeal 2007-3733, citing *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (A proper obviousness determination requires that an Examiner make “a searching comparison of the claimed invention – **including all its limitations** – with the teaching of the prior art.”)²³

If a *prima facie* case of obviousness is not established, the Appellant has no obligation to submit evidence of nonobviousness:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

With these principles in mind, the Appellants now turn to the claim rejections in particular.

A. Independent Claims 1, 9 and 17

Claim 1 is patentable because the proposed combination of Choksi, Sundar and Dokko does not disclose or suggest at least the limitation of “notifying said first access point of said allocated bandwidth using at least a second messaging protocol message,” as recited by the Appellant in independent claim 1.

The Examiner admits that Choksi fails to explicitly disclose this limitation.

However, Choksi discloses the allocation of resources and allowance of call admission requests, but fails to specifically disclose the notification to the first access point of the communication system to commence the connection.

²³ Emphasis added except where noted otherwise.

(Final Office Action, p. 6.) The Examiner turns to Sundar in an attempt to make up for this admitted deficiency in Choksi.

Sundar discloses a call connection management system for hybrid wired/wireless (WWAN and WLAN) networks which performs call setup functions such as channel assignment based upon requests from users. During the call connection setup, initiated by, for example, a handoff scenario, the serving SSC informs the desired SSC of the desire to handoff, and once the operation is complete, acknowledgements are returned to the initiating parties (Figure 12 - Page 6, Paragraphs 0074-0075).

(*Id.*) However, in proposing to combine Sundar with Choksi, the Examiner fails to provide “articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness” in the detailed manner described in KSR.

Specifically, in order to support an assertion of obviousness, the Examiner is required to provide “some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness.” See *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) quoting *In re Kahn*, 441 F.2d 997,988 (CA Fed. 2006). Put another way, the Examiner should “identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR*, 127 S. Ct. at 1741. The Examiner should make “explicit” this rationale of “the apparent reason to combine the known elements in the fashion claimed,” including a detailed explanation of “the effects of demands known to the design community or present in the marketplace” and “the background knowledge possessed by a person having ordinary skill in the art.” *Id.*

In the present instance, the Examiner attempts to justify the combination of Sundar and Choksi as follows:

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Sundar with the teachings as in Choksi in order to provide users with necessary bandwidth to complete their communications and control a network so that it's (*sic*.) bandwidth capabilities are not exceeded.

(Final Office Action, pp. 6-7.) This conclusory allegation does not provide "articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness" in the detailed manner described in *KSR*. Instead, the Office Action appears to propose this combination based solely on improper hindsight. In this regard, the Office Action alleges the combination would be obvious "in order to provide users with necessary bandwidth to complete their communications and control a network so that it's bandwidth capabilities are not exceeded." However, Sundar is not at all concerned with bandwidth capabilities. Nor does it disclose or suggest providing a notification to an access point of allocated bandwidth. Hence, it is respectfully submitted that the Examiner has not established a *prima facie* case of obviousness and the Board should withdraw the rejection of claim 1.

Moreover, even if the references are combined in the manner suggested, the proposed combination of Choksi and Sundar still fails to disclose or suggest at least the limitation of "notifying said first access point of said allocated bandwidth using at least a second messaging protocol message," as recited by the Appellant in independent claim 1. The Examiner cites to paragraphs 0074-0075 of Sundar in connection with this claim limitation. The cited passage of Sundar reads as follows:

[0074] The logic starts at 1200 and proceeds to 1202 in which the mobile station 310 informs the WLAN serving MSC (Source MSC) 302 that a handoff is required. This may be based on the network sensing method. As discussed above, in the network sensing method, the mobile station 310 senses both the WLAN and the WWAN networks and chooses one of them based on the relative RF strengths. During the sensing procedure, the cell id of the WWAN network becomes known to the mobile station 310. The mobile station 310 uses the cell id to initiate a hard handoff to the WWAN network from the WLAN network. In the handoff required message the cell id of the WWAN network is sent to the WLAN switch. This is an overloaded SIP command. The cell id is used so that the MSC that was serving the WLAN and is now the anchor knows which other MSC to connect to. The source MSC 302 issues 1204 a facility directive (FD) to the WWAN MSC (Target MSC) 110 that allows it open a bearer channel on PSTN 112 (for example) from Source MSC 302 to Target MSC 110. This allows the source MSC to serve as an anchor for the communication, having a new "leg" to the target MSC and an existing pathway to the other entity(ies) on the existing call. The Target MSC 110 sends 1206 a handoff request to the (Target) BSC 106. The Target BSC 106 commences 1208 RF channel signaling with the mobile station 310. The Target BSC 106 sends 1210 handoff request acknowledgement to Target MSC 110. The Target MSC 110 responds 1212 to the facility directive request back to the Source MSC. The Source MSC 302 sends 1214 a message to the mobile station 310 indicating that a handoff may be commenced. For example, this message may be sent as an overloaded SIP message. This message effectively informs the mobile station that it may select and start using the appropriate RF and modulation circuitry to communicate with the WWAN. The mobile station 310 sends 1216 a message to the source MSC 302 to commence handoff. Again, this message may be sent as an overloaded SIP message. The mobile station 310 commences 1218 RF channel signaling with Target BSC 106. The mobile station 310 sends 1220 handoff completion message to Target BSC 106. Again, this message may be sent as an overloaded SIP message. The Target BSC 106 acknowledges 1222 handoff order to the mobile station 310. The Target BSC 106 sends 1224 handoff complete message to Target MSC 110. The Target MSC 110 sends 1226 message to Source MSC 302 indicating that the mobile station 310 is on channel with Target BSC 106. The Source MSC 302 sends 1228 a message to the mobile station 310 indicating that it may clear any resources assigned this transaction. The mobile station 310 responds 1230 with OK acknowledgement.

[0075] In an exemplary embodiment of the present invention, if the WWAN is an IS-41 network then the messages, excluding the

overloaded messages, will use IS-41 protocol elements. The various specific messages used as explained with reference to FIG. 12 are shown in FIG. 13. In another exemplary embodiment, if the WWAN network is a GSM-MAP network, the protocol elements used will be GSM-MAP. The various specific messages used as explained with reference to FIG. 12 are shown in FIG. 14.

(Sundar, ¶¶ 0074-0075.) Although the above citation discloses that the service BSC informs the desired BSC of the desire to handoff, neither in this passage nor elsewhere does Sundar disclose or suggest that an access point is notified of allocated bandwidth using a messaging protocol message, as recited by the Appellant in claim 1. It is unclear why the Examiner relies on Sundar, as Sundar clearly does not disclose or suggest any access point notification. In fact, Sundar also does not disclose any allocated bandwidth notification, or the use of messaging protocol messages for purposes of allocated bandwidth notifications. Dokko does not overcome these deficiencies of Choksi and Sundar. Therefore, the proposed combination of Choksi, Sundar, and Dokko does not disclose or suggest at least the limitation of "notifying said first access point of said allocated bandwidth using at least a second messaging protocol message," as recited by the Appellant in independent claim 1.

Claim 1 is also patentable because the combination of Choksi, Sundar and Dokko does not disclose or suggest at least the limitation of "receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network," as recited by the Appellant in independent claim 1.

In rejecting claim 1, the Final Office Action states the following:

Regarding claims 1, 9, and 17. Choksi discloses a method, system, and machine readable storage for providing bandwidth management in a hybrid wired/wireless local area network (Abstract, column 4 lines 18-26), the method comprising:

receiving from at least one of a first access point and a first switch, at least a first messaging protocol message (call admission request is submitted- Column 7, Lines 5-15 and 33-41);

(Final Office Action, p. 6.) Initially, it is noted that claim 1 relates to a method for providing bandwidth management in a **hybrid wired/wireless local area network (LAN)**. However, Choksi merely discloses a method and system for managing real-time bandwidth requests in a **wireless network** that includes receiving a request for a connection for bandwidth of a cell of a wireless network. (See Choksi at Abstract.) In this regard, **Choksi relates only to wireless cell networks and does not relate to a hybrid wired/wireless LAN.**

With regard to the "receiving" claim limitation stated above, the Examiner relies on the following citations from Choksi:

Referring to FIG. 3, the method begins at state 160 in which the bandwidth request control is idle while there are no requests to be processed. In response to a bandwidth request for a connection, idle state 160 transitions to step. At step 162, the type of the request is determined. The request may be a handoff request, a call admission request, an additional bandwidth request or any other suitable type of request for bandwidth for a wireless connection. Proceeding to step 162, a QoS policy is retrieved for the connection. The QoS policy may be retrieved from a SLA or other suitable database or node of the communications network 10.

FIG. 4 illustrates a method for bandwidth allocation control in accordance with one embodiment of the present invention. In this embodiment, as previously described in connection with FIG. 3, a single bandwidth request control is used to process call handoff, call admission and

additional bandwidth requests. The bandwidth request control includes the call bandwidth and call handoff admission controls 72 and 74 and/or the functionality, thresholds and queues of the controls 72 and 74.

(See Choksi. 7:5-15 and 7:33-41.) Figure 3 of Choksi illustrates a method for queuing a bandwidth request for allocation in a wireless cell network, and Figure 4 of Choksi illustrates a method for bandwidth allocation control within the wireless cell network. The Appellant points out that **Choksi, including the above citation of Choksi, does not disclose or suggest receiving by an access point or a switch, a messaging protocol message for establishing a communication session within the hybrid wired/wireless LAN**, as recited in Appellant's claim 1. In fact, **Choksi does not disclose or suggest any signal processing with regard to a messaging protocol message or, for that matter, with regard to an access point or a switch within a hybrid wired/wireless LAN**, as recited in Appellant's claim 1. Sundar is also silent as to receiving from an access point or a switch, a messaging protocol message for establishing a communication session within a hybrid wired/wireless LAN, as recited by the Appellant in independent claim 1.

The Examiner concedes the above deficiencies of Choksi and Sundar, and then relies for support on Dokko to teach "a messaging protocol message for establishing a communication session within a hybrid wired/wireless LAN":

Dokko teaches a channel allocation system and method for radio data calls having different bandwidths (title and abstract). He teaches in column 4 lines 18-21 and 28-33 that a call set up request is received from the call processing unit 11 (which is a part of the mobile switching system 10 as shown in figure 1), and after the data call connection request is received, the system determines the required/allocated

bandwidth based on the service option of the corresponding data call. Therefore, *the data call connection request received from the call processing unit in the mobile switching system clearly reads on the claimed first messaging protocol message for establishing a communication session received from at least one of a first access point and a first switch.*

(Final Office Action, p. 7.) Initially, the Appellant notes that Dokko is related to a method for making radio data calls using a mobile unit. Dokko is not related to any processing of messaging protocol messages within a hybrid wired/wireless LAN. In addition, referring to Dokko's Fig. 1, the call set up request is not received from the call processing unit, as alleged by the Examiner; the call set up request is inputted from a mobile subscriber (i.e., a user) using the mobile subscriber processing unit 11. (See Dokko, 1:23-27.) **Dokko is deficient in several ways. Firstly, Dokko's call set up request inputted from a mobile subscriber is clearly neither a messaging protocol message, nor it is received from "at least one of a first access point and a first switch." Secondly, Dokko's call set up request inputted from a mobile subscriber is not used for purposes of establishing a communication session within a hybrid wired/wireless LAN.**

Therefore, the proposed combination of Choksi, Sundar and Dokko does not disclose or suggest at least the limitation of "receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network," as recited by the Appellant in independent claim 1.

Accordingly, the proposed combination of Choksi, Sundar, and Dokko does not render independent claim 1 unpatentable, and a *prima facie* case of obviousness has not been established. The Appellant submits that claim 1 is allowable.

Independent claims 9 and 17 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Appellant submits that independent claims 9 and 17 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 1.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 1, 9 and 17.

B. Rejection of Dependent Claims 2, 10 and 18

Claims 2, 10 and 18 depend on independent claims 1, 9 and 17, respectively. Therefore, claims 2, 10 and 18 are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claims 1, 9 and 17.

Claim 2 is also patentable because the proposed combination of Choksi, Sundar, and Dokko does not disclose or suggest at least the limitation of “wherein said receiving comprises receiving said at least a first messaging protocol message by at least one of a second switch and a second access point,” as recited by the Appellant in claim 2. The Final Office Action states the following with regard to claim 2:

Regarding claims 2, 10, and 18, Choksi as modified by Sundar and Dokko further discloses receiving said at least a first messaging protocol message by at least one of a second switch and a second access point (Sundar et al. - the serving WLAN MSC informs the desired WWAN BSC

of the handoff requests - Figure 12, Steps 1204-1210 - Page 6,
Paragraph 0074).

(Final Office Action, pp. 7-8.) Hence, the Examiner apparently contends that in Sundar, the serving WLAN MSC 302 informs the desired WWAN BSC of the handoff requests. The Appellant submits that this is an incorrect interpretation of Sundar. In this regard, Sundar describes steps 1202-1210 as follows:

The logic starts at 1200 and proceeds to 1202 in which the mobile station 310 informs the WLAN serving MSC (Source MSC) 302 that a handoff is required. . . . The source MSC 302 issues [at step] 1204 a facility directive (FD) to the WWAN MSC (Target MSC) 110 that allows it open a bearer channel on PSTN 112 (for example) from Source MSC 302 to Target MSC 110. . . . The Target MSC 110 sends [at step] 1206 a handoff request to the (Target) BSC 106. The Target BSC 106 commences [at step] 1208 RF channel signaling with the mobile station 310. The Target BSC 106 sends 1210 handoff request acknowledgement to Target MSC 110. The Target MSC 110 responds [at step] 1212 to the facility directive request back to the Source MSC.

(Sundar, ¶ 0074.) Hence, Sundar discloses that serving WLAN MSC 302 issues a facilities directive to the target WWAN MSC 110 to open a bearer channel. It does not, however, disclose that the "WLAN MSC 302 informs the desired WWAN BSC of the handoff requests," as alleged by the Examiner. Rather, the only mention of sending handoff requests is between the mobile station 310 and the WLAN MSC 302 in step 1202, and between the WWAN MSC 110 and that target WWAN BSC 106 in step 1206. Accordingly, the proposed combination of Choksi, Sundar and Dokko fails to disclose or suggest "wherein said receiving comprises receiving said at least a first messaging protocol message by at least one of a second switch and a second access point," as recited by the Appellant in claim 2. Hence, claim 2 is also patentable for at least this reason.

Claims 10 and 18 are similar in many respects to the method disclosed in claim 2. Therefore, claims 10 and 18 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 2.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 2, 10 and 18.

C. Rejection of Dependent Claims 3, 11 and 19

Claims 3, 11 and 19 depend on claims 2, 10 and 18, respectively. Therefore, claims 3, 11 and 19 are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claims 2, 10 and 18.

Claim 3 is also patentable because the proposed combination of Choksi, Sundar, and Dokko does not disclose or suggest at least the limitation of "requesting bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol message," as recited by the Appellant in claim 3. The Final Office Action states the following with regard to claim 3:

Regarding claims 3, 11, and 19. Choksi as modified by Sundar and Dokko further discloses requesting bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol (Choksi - call admission request are single bandwidth requests - Column 7, Lines 42-48).

(Final Office Action, p. 8.) The passage of Choksi cited by the Examiner reads as follows:

Referring to FIG. 4, the method begins at step 200 in which bandwidth usage for the cell in which requests are being processed is updated to reflect the current, real-time bandwidth usage of the cell. The bandwidth usage may be updated by the BTSs 30 and passed to the bandwidth allocation controller 70 or determined and/or estimated by the controller.

(Choksi, 7:42-48.) Hence, while Choksi, at the above citation, may disclose that "bandwidth usage may be updated by the BTSs 30 and passed to the bandwidth allocation controller 70," it clearly does not disclose or suggest "requesting bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol message," as recited by the Appellant in claim 3. Hence, claim 3 is also patentable for at least this reason.

Claims 11 and 19 are similar in many respects to the method disclosed in claim 3. Therefore, claims 11 and 19 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 3.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 3, 11 and 19.

D. Rejection of Dependent Claims 4, 12 and 20

Claims 4, 12 and 20 depend on claims 3, 11 and 19, respectively. Therefore, claims 4, 12 and 20 are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claims 3, 11 and 19.

Claim 4 is also patentable because the proposed combination of Choksi, Sundar, and Dokko does not disclose or suggest at least the limitation of "de-allocating said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session," as recited by the Appellant in claim 4. The Final Office Action states the following with regard to claim 4:

Regarding claims 4, 12, and 20. Choksi as modified by Sundar and Dokko further discloses de-allocating said allocated bandwidth using at

least a third messaging protocol message subsequent to termination of said established communication session (Sundar et al. - once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile – Figure 12, steps 1226-1228 - Page 6, Paragraph 0074).

(Final Office Action, p. 8.) The portions of Sundar cited by the Examiner relate to a Hard Handoff from WLAN to WWAN, which occurs, for example, when the mobile station 310 roams from WLAN 200 to WWAN 100 while engaged in a call. (See Sundar, ¶¶ 0073 to 0074.) In this regard, Sundar discloses that once the handoff from the WLAN to the WWAN is complete, the "Source MSC 302 sends a message to the mobile station 310 indicating that it may clear any resources assigned this transaction." (Sundar, ¶ 0074 and Fig. 12, Step 1228.) First, it is noted that Sundar does not indicate that the "resources" referenced in this passage are "bandwidth," as required by claim 4. However, even assuming *inter alia* that "resources" include "bandwidth" (which Appellants do not concede), the resources that are "cleared" in step 1228 are not the "allocated bandwidth," recited by claim 4. Specifically, to the extent this passage of Sundar can be fairly read as disclosing de-allocating bandwidth (which the Appellant does not concede), it refers to de-allocating bandwidth in the WLAN network that was being used by the mobile station 310 before it was handed off to the WWAN. By contrast, claim 4 requires **de-allocating said allocated bandwidth . . . subsequent to termination of said established communication session.** In other words, the bandwidth that is de-allocated in claim 4 is the bandwidth that was allocated when the communication session was established in claim 1. Hence, claim 4 is patentable over the proposed combination of references for at least this additional reason.

Claims 12 and 20 are similar in many respects to the method disclosed in claim 4. Therefore, claims 12 and 20 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 4.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 4, 12 and 20.

E. Rejection of Dependent Claims 5, 13 and 21

Claims 5, 13 and 21 depend on claims 4, 12 and 20, respectively. Therefore, claims 5, 13 and 21 are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claims 4, 12 and 20.

Claim 5 is also patentable because the proposed combination of Choksi, Sundar, and Dokko does not disclose or suggest at least the limitation of "sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point," as recited by the Appellant in claim 5. The Final Office Action states the following with regard to claim 5:

Regarding claims 5, 13, and 21. Choksi as modified by Sundar and Dokko further discloses sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point (Sundar et al. - once the mobile has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile - Figure 12, steps 1226-1228- Page 6, Paragraph 0074).

(Final Office Action, p. 8.) The Appellant disagrees with the Examiner's interpretation of Sundar. Specifically, the Examiner states that Sundar discloses that "once the mobile

has handed off to the WWAN, the WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile [station]." (*Id.*) In actuality, Sundar discloses that the **"Source MSC 302 sends a message to the mobile station 310** indicating that it may clear any resources assigned this transaction." (Sundar, ¶ 0074 and Fig. 12, Step 1228.) Hence, although Sundar discloses sending a message from the Source MSC 302 to the mobile station 310 to clear resources, it does not disclose or suggest that the "WWAN notifies the WLAN MSC that it may clear the resources previously allocated for the mobile [station]," as alleged by the Examiner. More to the point, Sundar does not disclose or suggest "sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point," where said third message is used for "de-allocating said allocated bandwidth . . . subsequent to termination of said established communication session," as required by claim 5. Thus, claim 5 is patentable for at least this additional reason.

Claims 13 and 21 are similar in many respects to the method disclosed in claim 5. Therefore, claims 13 and 21 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 5.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 5, 13 and 21.

F. Rejection of Dependent Claims 6, 14 and 22

Claims 6, 14 and 22 depend on claims 5, 13 and 21, respectively. Therefore, claims 6, 14 and 22 are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claims 5, 13 and 21.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 6, 14 and 22.

G. Rejection of Dependent Claims 7, 15 and 23

Claims 7, 15 and 23 depend on claims 6, 14 and 22, respectively. Therefore, claims 7, 15 and 23 are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claims 6, 14 and 22.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 7, 15 and 23.

H. Rejection of Dependent Claims 8, 16 and 24

Claims 8, 16 and 24 depend on claims 7, 15 and 23, respectively. Therefore, claims 8, 16 and 24 are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claims 7, 15 and 23.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 8, 16 and 24.

I. Rejection of Dependent Claim 25

Claim 25 depends on independent claim 23. Therefore, claim 25 is allowable over are allowable over the proposed combination of Choksi, Sundar, and Dokko at least for the reasons stated above with regard to claim 23.

The Appellant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claim 25.

CONCLUSION

For at least the foregoing reasons, the Appellant submits that claims 1-25 are in condition for allowance. Reversal of the Examiner's rejection and issuance of a patent on the application are therefore requested.

The Commissioner is hereby authorized to charge \$540 (to cover the Brief on Appeal Fee) and any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Respectfully submitted,

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(KVL)

CLAIMS APPENDIX
(37 C.F.R. § 41.37(c)(1)(viii))

1. A method for providing bandwidth management in a hybrid wired/wireless local area network, the method comprising:

receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network;

responsive to said first messaging protocol message, determining an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network;

allocating bandwidth to accommodate said communication session; and

notifying said first access point of said allocated bandwidth using at least a second messaging protocol message.

2. The method according to claim 1, wherein said receiving comprises receiving said at least a first messaging protocol message by at least one of a second switch and a second access point.

3. The method according to claim 2, comprising requesting bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol message.

4. The method according to claim 3, comprising de-allocating said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session.

5. The method according to claim 4, comprising sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point.

6. The method according to claim 5, comprising receiving bandwidth information from at least one of a quality of service management process, a load balancing management process, a session control process, and a network management process using at least a fourth messaging protocol message.

7. The method according to claim 6, comprising requesting said bandwidth information from said quality of service management process, said load balancing management process, said session control process, and said network management process using a fifth messaging protocol message.

8. The method according to claim 7, wherein said first, second, third, fourth and fifth messaging protocol messages each comprise at least one message selected from the group consisting of an access point status message, access point configuration

message, a switch status message, a switch configuration message, a client status message and a device discovery message.

9. A machine-readable storage, having stored thereon a computer program having at least one code section for providing bandwidth management in a hybrid wired/wireless local area network, the at least one code section executable by a machine for causing the machine to perform the steps comprising:

receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network;

responsive to said first messaging protocol message, determining an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network;

allocating bandwidth to accommodate said communication session; and

notifying said first access point of said allocated bandwidth using at least a second messaging protocol message.

10. The machine-readable storage according to claim 9, wherein said receiving code comprises code for receiving said at least a first messaging protocol message by at least one of a second switch and a second access point.

11. The machine-readable storage according to claim 10, comprising code for requesting bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol message.

12. The machine-readable storage according to claim 11, comprising code for de-allocating said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session.

13. The machine-readable storage according to claim 12, comprising code for sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point.

14. The machine-readable storage according to claim 13, comprising code for receiving bandwidth information from at least one of a quality of service management process, a load balancing management process, a session control process, and a network management process using at least a fourth messaging protocol message.

15. The machine-readable storage according to claim 14, comprising code for requesting said bandwidth information from said quality of service management process, said load balancing management process, said session control process, and said network management process using at least a fifth messaging protocol message.

16. The machine-readable storage according to claim 15, wherein said first, second, third, fourth and fifth messaging protocol messages each comprise at least one message selected from the group consisting of an access point status message, access point configuration message, a switch status message, a switch configuration message, a client status message and a device discovery message.

17. A system for providing bandwidth management in a hybrid wired/wireless local area network, the system comprising:

a receiver adapted to receive from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network;

at least one controller adapted to determine an available communication bandwidth for at least a portion of the hybrid wired/wireless local area network, responsive to said first messaging protocol message;

said at least one controller adapted to allocate bandwidth to accommodate said communication session; and

said at least one controller adapted to notify said first access point of said allocated bandwidth using at least a second messaging protocol message.

18. The system according to claim 17, wherein said receiver is adapted to receive said at least a first messaging protocol message by at least one of a second switch and a second access point.

19. The system according to claim 18, wherein said at least one controller is adapted to request bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol message.

20. The system according to claim 19, wherein said at least one controller is adapted to de-allocate said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session.

21. The system according to claim 20, wherein said at least one controller is adapted to send said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point.

22. The system according to claim 21, wherein said receiver is adapted to receive bandwidth information from at least one of a quality of service management process, a load balancing management process, a session control process, and a network management process using at least a fourth messaging protocol message.

23. The system according to claim 22, wherein said at least one controller is adapted to request said bandwidth information from said quality of service management process, said load balancing management process, said session control process, and said network management process using at least a fifth messaging protocol message.

24. The system according to claim 23, wherein said first, second, third, fourth and fifth messaging protocol messages each comprise at least one message selected from the group consisting of an access point status message, access point configuration message, a switch status message, a switch configuration message, a client status message and a device discovery message.

25. The system according to claim 23, wherein said at least one controller is a bandwidth management controller, a quality of service controller, a load balancing controller, a session controller and a network management controller.

EVIDENCE APPENDIX
(37 C.F.R. § 41.37(c)(1)(ix))

- (1) United States Patent No. 6,978,144 ("Choksi"), entered into record by the Examiner in the December 18, 2006 Office Action.
- (2) United States Patent Application Publication No. 2003/0134650 ("Sundar"), entered into record by the Examiner in the December 18, 2006 Office Action.
- (3) United States Patent No. 7,089,016 ("Dokko"), entered into record by the Examiner in the March 28, 2010 Office Action.

RELATED PROCEEDINGS APPENDIX
(37 C.F.R. § 41.37(c)(1)(x))

The Appellant is unaware of any related appeals or interferences.